What is claimed:

- 1. A discharge bulb comprising:
- an arc tube having a light-emitting tube portion;
- 5 and
 - a shroud glass surrounding said arc tube in a tubular form.
- wherein an inert gas and a metal halide are contained in a discharge space inside said light-emitting 10 tube portion, the discharge space being mercury-free; and
 - a gas having lower thermal conductivity than air is contained in an annular space defined between said arc tube and said shroud glass.
- 15 2. The discharge bulb according to claim 1, wherein the gas contained in the annular space between the tube and the shroud glass contains not less than 50% in total of one or more of argon gas, krypton gas, and xenon gas.
- 3. The discharge bulb according to claim 1, wherein the gas contained in the annular space contains not less than 60% xenon gas.
- The discharge bulb according to claim 2, wherein
 the gas contained in the annular space contains not less

than 60% xenon gas.

- The discharge bulb according to claim 1, wherein
 a charging pressure of the gas in the annular space is 0.2
 to 0.9 atm.
 - 6. The discharge bulb according to claim 2, wherein a charging pressure of the gas in the annular space is 0.2 to 0.9 atm.

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7. The discharge bulb according to claim 3, wherein a charging pressure of the gas in the annular space is 0.2 to 0.9 atm.

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